inadequate descriptions of certain animal types. The geological history of the vegetable kingdom is dealt with in about half a page of text, but an entire page is devoted to "Lamarckismus und Darwinismus." This being so, it seems a piece of reckless extravagance to have devoted several pages of the section on movement to organisms which do not move. The appetite of the German public for small doses of extremely condensed elementary biology seems to be insatiable. We should like to know to what extent information conveyed in this way is capable of assimilation. It seems as if a considerable amount of previous biological training would be necessary, even for the intelligent reading of such a book as this. It may perhaps be of some use in supplying new points of view to those to whom the actual facts are already more or less familiar.

Heaton's Annual. The Commercial Handbook of Canada and Boards of Trade Register, 1911. Edited by E. Heaton and J. B. Robinson. Pp. 540. (Toronto: Heaton's Agency; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd.) Price 5*s*.

THE information about Canada which a business-man requires is here arranged in logical sequence. All matter under the head of general information is official, having been collected from the latest Blue Books. The Boards of Trade Register contains descriptions of towns, with notes of opportunities offering for manufacturers, investors, and individuals. Altogether this is a useful work of reference.

Flowers of the Field. By the late Rev. C. A. Johns. Thirty-third edition, entirely revised by G. S. Boulger. Pp. 611+64 coloured plates. (London: Society for Promoting Christian Knowledge, 1911.) Price 7*s*. 6*d*.

NOTHING need be said about the interest and usefulness of a book which has reached its thirty-third edition. In its revised form this popular manual will probably enter on a new lease of life, for it would be difficult to find a more convenient volume for the student of field botany.

The British Isles: Geographical Diagrams and Land Forms, with Questions, Statistics, and Tables. By H. J. Snape. Pp. 64. (London: A. and C. Black, 1911.) Price 1*s*. 6*d*.

MOST teachers expect to find in the text-book of geography they place in the hands of their pupils maps, pictures, and statistics of the kind Mr. Snape has brought together here. In schools where it is difficult to use a magic-lantern, the pictures especially should prove useful. The book is likely to save teachers time and trouble.

Familiar Wild Flowers. Figured and described by F. Edward Hulme. Pp. xviii+184. (London: Cassell and Co., Ltd., 1910.) Price 3*s*. 6*d*.

THIS series of volumes—of which the present is the ninth—with their striking coloured plates, are already widely known and deservedly popular. It is easy with the aid of these books to decide the species and genus of common wild flowers, and to discover the part they may have taken in folk-lore and other literature. We understand this is the concluding volume of the series.

Junior Experimental Science. By W. M. Hooton. Pp. lviii+277. (London: W. B. Clive, 1910.) Price 2*s*. 6*d*.

THIS is the second edition of a book which on its first appearance was reviewed in NATURE for May 16, 1907 (vol. xxvi., p. 51). There do not appear to be any important changes in the volume.

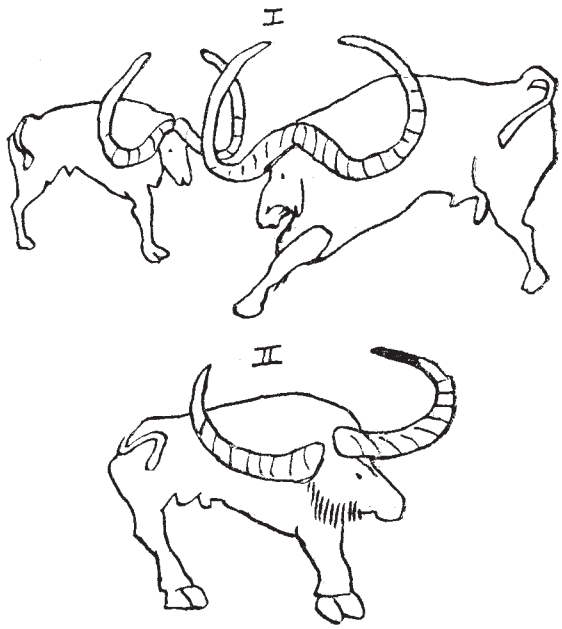
LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. *No notice is taken of anonymous communications.]*

The Extinct Buffalo of Algeria as Drawn by Prehistoric Man.

ONE of my objects in making a tour recently into south-western Algeria and the adjoining region of the Moroccan Sahara was to see the engravings on the rock surfaces, which have lately attracted much attention amongst French men of science, especially those who are more or less connected with the University of Algiers. Quite a number of the sites of these remarkable rock drawings (such as Tiout and Zenaga) can be reached by the long railway which the State has constructed from Oran on the north to Figuig and the Wed Gir in the extreme south of Morocco.

These pictures on the rocks have been mainly studied and illustrated by M. Gautier (Mission Sahara: Le Sahara Algérien), and by M. G. B. Flamand, through the Lyons Society of Anthropology. M. Flamand's great work on the subject, however, is not yet completed for publication.



Prehistoric drawings of *Bos* (*bubalus*) *antiquus* in South-western Algeria. I. On rock-surface at Ennfous in the Aflou district, east of Géryville. II. At Ksar al Ahmar, near Géryville.

The chief features of interest in these prehistoric drawings will certainly be to zoologists the huge buffalo with enormous horns, which is perhaps the animal most frequently illustrated. I have copied a number of these either from the stones or the photographs of the stones, which may be seen at the University of Algiers or in the Algiers Archæological Museum, and give two of them here.

Of course, the great interest of these drawings is that they come as a valuable supplement to the palæontological discoveries made in the Quaternary and late Tertiary deposits of Algeria. The principal person connected with the discovery and illustration of the vanished fauna of Algeria was the late Prof. A. Pomel, whose works were mostly published between 1893 and 1908. Amongst the discoveries of himself or his predecessors were the remains of a gigantic buffalo—*Bos* (*bubalus*) *antiquus*—a creature

with a superficial resemblance to the Arni buffalo of India, but larger in size and possessing horns exceeding those of the Arni in length, while in its skeleton it evinces a greater relationship to the Cape buffalo. Of course, the fossil remains only give us in their most perfect examples the more or less complete bony core of these horns. We owe to the art of primitive man a better idea of what this armature looked like as a living animal. In full-grown males the horns were marked with annular corrugations, not unlike those still to be seen on the horns of Asiatic buffaloes (there are traces of them also in some of the modern types of Central Africa). There was no considerable development of horn boss on the forehead, and the horns seem to have been flat rather than round. They were set on the skull in such a way that they were not so much directed backwards, as in the Indian buffaloes of to-day, but branched out from the head almost at right angles to the median line of the nose, and in very extravagant developments looked like the figure 3 laid on its side. In some of the drawings there is the indication of the buffalo having developed a considerable fringe of hair along the angle of the lower jaw, in some examples almost a throat mane.

When did this large buffalo become extinct? Some of the authorities I consulted thought not more than two or three thousand years ago. They stated that amongst the engraved rock surfaces that have been photographed there are drawings of this buffalo bearing a pack-saddle. In any case, the drawings I saw myself represented it as being hunted by some form of white man (presumably of Libyan race) wearing a skin garment round the loins and armed with a bow and arrow, or with a spear and javelin, these weapons being either Neolithic or actually within the age of metal.

So far as I know, there is no mention of this buffalo existing in North Africa to be found in any of the Roman writers.

In addition to the buffaloes in these prehistoric drawings, the African elephant is the most striking feature. He is unmistakably delineated with widespread ears, but seldom or never with very big tusks. The fore-foot of these elephants is sometimes girt about by what seems to be a circlet of converging spikes (unless this type of elephant developed bristles on his feet). This recalls in appearance the kind of antelope or buffalo snare which is still in use in Ethiopia and East Central Africa. Other beasts illustrated on the rock incisions of Africa north of the Sahara Desert are the lion, leopard, Mhorr gazelle, Loder's gazelle, and domestic goats and sheep.

Among the remainder of the vanished fauna of Algeria which was apparently coeval with man, but is not to be identified in any prehistoric drawing, was a species of elephant closely allied to that of India, besides the *Elephas antiquus* of Pleistocene Europe. In addition to the buffalo, there was a large wild ox (*Bos opisthonomus*) allied to the aurochs of Europe, and a third form, *Bos ibericus*, apparently nearly related to the Indian zebu, and, if so, in all probability the parent of the modern domestic ox of negro Africa, as well as of types preserved for us in the art of ancient Egypt and of Crete. There was also an eland very like the elands of to-day, and what Prof. Pomel called a nilghai (*Boselaphus rayi*), with longer, more circular horns than those of the existing species; also a gnu, apparently related to the blue gnu of tropical Africa. There were two forms of hippopotamus, one the existing species, and the other a more primitive type with six incisors. Somewhat earlier, perhaps, in period of time was *Cervus pachygenys*, a remarkable form of deer with an exceedingly thick lower jaw, which developed on the outer aspect of its phalanges almost a boss of bone, the purpose or advantage of which does not seem to be very clear. Prof. Pomel also believed that he found in the recent deposits in Algeria a type of Palla antelope, besides an indigenous species of wild camel. As to the modern African elephant, it must have swarmed in Algeria down to the time of the Romans, say two thousand years ago. Its remains are discovered in nearly every watercourse in the northern littoral. The fossil remains on which the late Prof. Pomel's treatises were based can be seen (on application) at the museum of the University of Algiers.

H. H. JOHNSTON.

The Transference of Names in Zoology.

A LETTER on the above subject addressed to NATURE of January 26 by my friend, Dr. Calman, has appeared also in the American journal *Science*. This appeal to the Old World and the New evidently invites discussion. The letter apparently has in mind the man in the street and the natural history specialist, each of whom is to be protected from "moral and intellectual damage," which some applications of the law of priority might inflict upon him.

So far as the general public is concerned, two things should be borne in mind, first, that for popular books on natural history the publisher thinks one Latin name as bad as another, or a great deal worse, and, secondly, that the casual inquirer, when told the technical denomination of an animal, straightway forgetteth what has been told him, be it right or wrong, time-honoured or brand-new. Some handy little names might be kept in stock to gratify these incurious curious persons, as, for example, *Metoponanaphrissontes*, probably applicable to quite a crowd of creatures from annelids to monkeys. Tears seem to mingle with the ink when Dr. Calman tells us that "at present, a writer who mentions Trichechus may be referring either to the walrus or the manatee." Yet what sort of a writer could have the ingenuity to leave it an open question which of the two animals he was discussing? "The great possibility of confusion" to which Dr. Calman refers appears to me to be simply a nightmare, by which he himself is one of the last men in the world to be terrified.

Incidentally, I would beg Dr. Calman and others not to be scared into using Carcinides (Rathbun, 1897) as the generic name of the common shore-crab, assigned to Carcinus by Leach in 1814. It is quite true that Latreille in 1796 named a genus Carcinus in the Amphipoda, but this ought to be considered a *nomen nudum*, since no species was designated as belonging to the genus, and in the course of 115 years no one has fitted the definition to any amphipod in particular.

The conclusion of Dr. Calman's letter reopens a controversy which I will now make one more effort to close.

No crustacean, perhaps, is better known than the common lobster. May I earnestly ask leave here to set forth in full the credentials of its proper scientific name?

1758. *Cancer gammarus*, Linn., Systema Naturæ, tenth edition, p. 631.

1758. *Astacus verus*, Borlase, Natural History of Cornwall, p. 274.

1777. *Astacus gammarus*, Pennant, British Zoology, vol. iv., p. 9.

1791. *Cancer (Astacus) gammarus*, Herbst, Krabben und Krebse, vol. ii., part i., p. 42.

1798. *Astacus marinus*, J. C. Fabricius, Suppl. Entom. Systematicæ, p. 406.

1813. *Astacus gammarus*, Leach, Edinburgh Encycl., vol. vii., p. 398.

1815. *Astacus gammarus*, Leach, in Trans. Linn. Soc., vol. ii., p. 344.

1819. *Astacus gammarus*, Leach, in Samouelle's Entomologist's Comp., p. 95.

1831. *Astacus marinus*, Latreille, Cours d'Entomologie, p. 379.

1836. *Astacus gammarus*, Westwood, in Partington's Brit. Cycl. Nat. Hist., vol. ii., p. 167.

1838. *Astacus gammarus*, Westwood, The Entomologist's Text-book, p. 101.

1844. *Astacus marinus*, O. G. Costa, *Atti R. Acc. Sci.*, vol. 5, part ii., p. 72.

1850. *Astacus gammarus*, White, Catal. Brit. Crust., p. 35. With the imprimatur of John Edward Gray.

1857. *Astacus gammarus*, White, Popular History of Brit. Crust., p. 101.

1875. *Astacus gammarus*, Sowerby, Malac. Podoph. Brit., text to pl. 35.

1893. *Astacus gammarus*, Stebbing, Hist. Crust., Internat. Sci. Ser., vol. lxxiv., p. 203.

1897. *Astacus gammarus*, A. O. Walker, Rep. Brit. Assoc. (1906), p. 437.

1897. *Astacus gammarus*, Stebbing, Ann. Nat. Hist., ser. 6, vol. xix., pp. 120, 355.

1900. *Astacus gammarus*, Stebbing, South African Crust., part i., p. 34